SONY

3-754-392-21 (1)

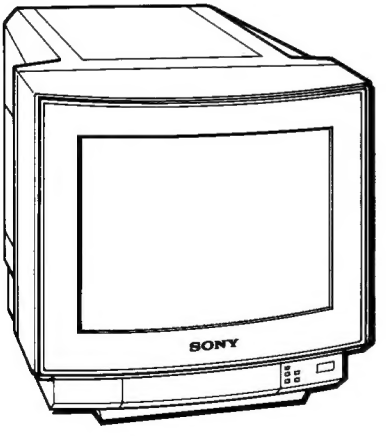
Trinitron® Color Video Monitor

Operating Instructions page 2

Before operating the unit, please read this manual thoroughly and retain it for future reference.

Mode d'emploi page 12

Avant la mise en service de cet appareil, prière de lire attentivement ce mode d'emploi que l'on conservera pour toute référence ultérieure.



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English

Owner's Record

The model and serial numbers are located at the rear. Record the serial number in the space provided below. Refer to them whenever you call upon your Sony dealer regarding this product.

Model No. GVM-1311Q Serial No. _____

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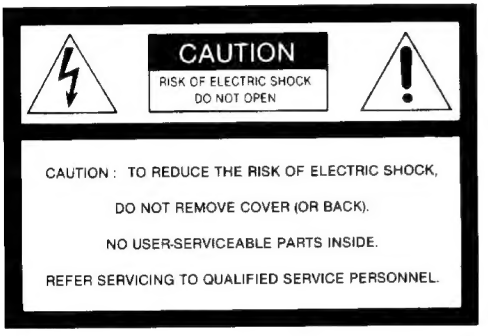
WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.


CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN
CAUTION : TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE COVER (OR BACK).
NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

This symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

For the customers in the USA

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.

For the customers in Canada

This apparatus complies with the Class B limits for radio noise emissions set out in Radio Interference Regulations.

Precautions

On safety

- Operate the unit only on 120 V AC.
- Should any solid object or liquid fall into the cabinet, unplug the unit and have it checked by qualified personnel before operating it any further.
- Unplug the unit from the wall outlet if it is not to be used for several days or more.
- To disconnect the AC power cord, pull it out by grasping the plug. Never pull the cord itself.

On installation

- Allow adequate air circulation to prevent internal heat build-up.
  Do not place the unit on surfaces (rugs, blankets, etc.) or near materials (curtains, draperies) that may block the ventilation holes.
- Do not install the unit in a location near heat sources such as radiators or air ducts, or in a place subject to direct sunlight, excessive dust, mechanical vibration or shock.

On cleaning

To keep the unit looking brand-new, periodically clean it with a soft cloth. Stubborn stains may be removed with a cloth lightly dampened with a mild detergent solution. Never use strong solvents such as thinner or benzine, or abrasive cleansers since these will damage the cabinet. As a safety precaution, unplug the unit before cleaning it.

On repacking

Do not throw away the carton and packing materials. They make an ideal container in which to transport the unit. When shipping the unit to another location, repack it as illustrated on the carton.

If you have any questions about this unit, contact your authorized Sony dealer.

Note on equipment to be connected
A good-quality picture can be obtained when the GVM-1311Q is connected to equipment with the timing indicated in the "Timing Chart" on page 11. If the monitor is connected to equipment with the timing not indicated in the chart, the picture quality may not be assured.

Features

The GVM-1311Q is a high-resolution color video monitor for use with video or RGB video equipment. Monitoring RGB signals of 15 kHz to 36 kHz horizontal scanning freqencies and 50 Hz to 100 Hz vertical scanning frequencies, and four color video signals are possible with one unit.

Multiscan color monitor
The monitor, which accepts 15 kHz to 36 kHz horizontal scanning frequencies and 50 Hz to 100 Hz vertical scanning frequencies, and detects the frequencies automatically, is compatible with a wide range of video equipment.

VGA Auto size
The AUTO SIZE switch automatically fixes the right picture size and picture center for a VGA signal from the D-sub 9-pin input connector.

Four color systems available
The monitor can display PAL, SECAM, NTSC$_{3.58}$ and NTSC$_{4.43}$* signals. The appropriate color system is selected automatically.

* A signal of NTSC$_{4.43}$ is obtained by playing back NTSC-recorded video cassettes with a video tape recorder/player especially designed for use with this system.

Analog/digital RGB multi connectors
Analog and digital RGB input signals can be fed through the D-sub 9-pin and 25-pin multi connectors.

Compatible with RGB equipment using 64 colors (RGB A)
The monitor allows reproduction of 8, 16 or 64 color for digital RGB input signals with the 16/64 or 8 COLOR selector and by sync polarity.

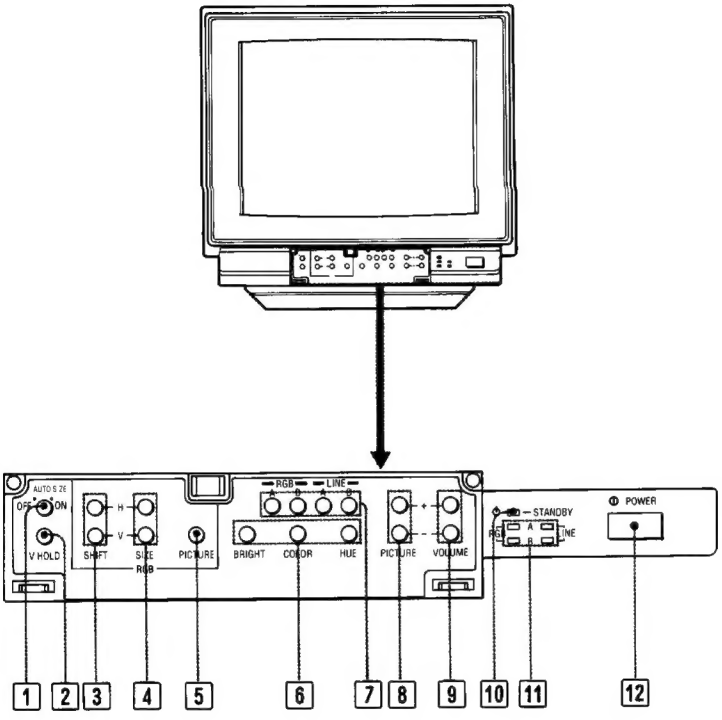
RGB A SELECT connector
Input signals fed through the RGB A connector can be selected with external equipment.

Automatic termination of the BNC-type video input connector
The BNC-type video input connector is automatically terminated at 75 ohms when no cable is connected to the output connector. When a cable is connected to the output connector, the signal input through the corresponding IN connector is output from the output connector.

CONTROL S input connector
Connecting this connector to the CONTROL S output of video equipment enables remote control operations of the power on/off, input select, volume and picture settings through the video equipment.

Y/C connector
A video signal split into the chrominance (C) signal and the luminance (Y) signal can be input through this connector, eliminating the interference between the two signals, which tends to occur in a composite video signal, and also assuring the picture quality.

Front panel



1 AUTO SIZE switch (only RGB A input)

ON: The right picture size and center are fixed in the VGA modes. The H/V SIZE and H/V SHIFT controls do not work. For other modes, the picture size and center are not guaranteed.

OFF: The H/V SIZE and H/V SHIFT controls can be freely set. The VGA modes have the same picture size and center.

Note

The above does not apply to RGB B input.

2 V HOLD (vertical hold) control

If the video input picture rolls vertically, use this control to stabilize it.

Note

Control 2 does not function for RGB input pictures.

[3] RGB H/V SHIFT (horizontal/vertical shift) controls

Turn the H-SHIFT control to adjust the horizontal position of the RGB input picture, if it is off center. Turn it clockwise to shift the picture toward the right and counterclockwise to shift the picture toward the left.
Turn the V-SHIFT control to adjust the vertical position of the RGB input picture, if it is off center. Turn it clockwise to shift the picture upward and counterclockwise to shift the picture downward.

[4] RGB H/V SIZE (horizontal/vertical size) controls

Turn the H-SIZE control to adjust the horizontal size.
Turn the V-SIZE control to adjust the vertical size.

[5] RGB PICTURE control

Adjust this control if the picture level of RGB inputs differs significantly from that of video inputs.
Turn this control clockwise to make the contrast and color intensity of the RGB input picture stronger, or counterclockwise to make them weaker.

Notes

- Controls [3] to [5] function only for RGB input pictures. However, they do not function when the RGB B input is selected with the SUPERIMPOSE switch on the rear panel set to ON.
- When turning the controls [1] to [4], use the supplied screwdriver (attached to the panel cover).

[6] Picture adjustment controls

BRIGHT (brightness) control
Normally keep this control at the center detent position. Turn it clockwise to make the picture brighter or counterclockwise to make it darker.
COLOR control
Turn this control clockwise to make the picture more vivid or counterclockwise to make it paler.
HUE control
Functions for NTSC signal only.
Use this control to obtain the most natural skin tones. Turn it clockwise to add green to the skin tones or counterclockwise to add purple/red hues.

Note

The COLOR and HUE controls work for VIDEO signals only.

[7] Input select buttons

Press to select the input source to be monitored.

RGB A: for input signals fed through the RGB A connector and the RGB A AUDIO jack
RGB B: for input signals fed through the RGB B connector
LINE A: for input signals fed through the LINE A connectors
LINE B: for input signals fed through the LINE B connectors

[8] PICTURE +/– buttons

Press the + button to make the contrast and color intensity stronger or press the – button to make them weaker.

[9] VOLUME +/– buttons

Press the + button for more volume or press the – button for less volume.

[10] STANDBY indicator

Lights when the power is turned off by remote control through CONTROL S signal.
While the unit is operating, this indicator functions as the response indicator.
It blinks when the VOLUME or PICTURE buttons are pressed.
It lights steadily at the highest or lowest level of volume or picture level.

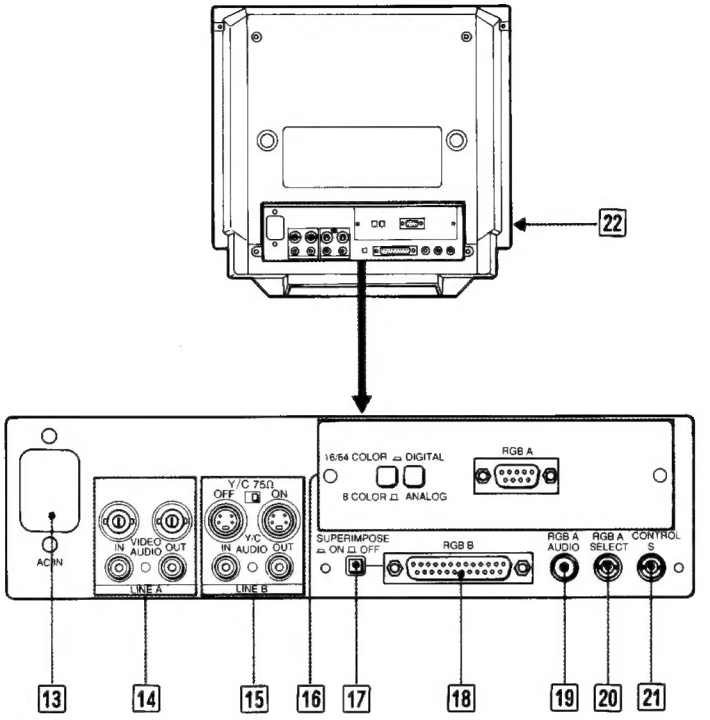
[11] Input select indicators (RGB A/RGB B/LINE A/LINE B)

When the input source is selected, the corresponding indicator lights.

[12] POWER switch

Press to turn on the monitor (⏏). Press again to turn it off (⏏).

Rear



13 AC IN connector
Connect the supplied power cord.

14 LINE A
To monitor the input signal fed through this line input, press the LINE A input select button on the front panel.

VIDEO IN connector(BNC type)
AUDIO IN jack(monaural)(phono type)
Connect to the video and audio outputs of video equipment such as VCRs or video disc players.
For a loop-through connection, connect to the video and audio outputs of another monitor.

VIDEO OUT connector(BNC type)
AUDIO OUT jack(monaural)(phono type)
For a loop-through connection, connect to the video and audio inputs of another monitor.
When a connecting cord is connected to the VIDEO OUT connector, the 75-ohm termination of the input is automatically released and the signal input to the VIDEO IN connector is output from this connector.

15 LINE B
To monitor the input signal fed through this line input, press the LINE B input select button.

Y/C 75 Ω termination switch
When only the Y/C IN connector is connected (i.e. nothing is connected to the Y/C OUT connector), set this switch to ON.
When both Y/C IN and OUT connectors are connected together for a loop-through connection, set this switch to OFF.

Y/C IN connector(4-pin mini-DIN)
Connect to the Y/C output of video equipment.
AUDIO IN jack(monaural)(phono type)

Y/C OUT connector(4-pin mini-DIN)
For a loop-through connection, connect to the Y/C input of another monitor.
AUDIO OUT jack(monaural)(phono type)

[16] RGB A interface unit

16, 64 COLOR/8 COLOR selector
Press this selector (⎍) when digital RGB equipment having 16- or 64-color mode is connected to the RGB A connector. The 16- or 64-color mode is automatically selected by sync polarity. Keep the selector released (⎍) for digital RGB equipment having the 8-color mode.

DIGITAL/ANALOG selector
Press this selector (⎍) when video equipment having digital RGB output is connected to the RGB A connector. Release the selector (⎍) for equipment having analog RGB output.

RGB A connector (D-sub 9-pin, female)
Connect to video equipment having either digital or analog RGB output.
To monitor the input signal fed through this connector, press the RGB A input select button.

[17] SUPERIMPOSE switch
Set this switch to ON (⎍) to display the composite video signal from a laser disc player, etc., or to perform superimposition. In this case, the RGB H/V SHIFT, RGB H/V SIZE and RGB PICTURE controls do not function.
Set this switch to OFF (⎍) to display the RGB signal from a microcomputer, etc. In this case, the sync signal should be supplied to pin 3 (H. sync) or pin 11 (V. sync) of the RGB B connector.

Notes

- When the RGB B/NORMAL mode select signal is supplied to pin 10 of the RGB B connector with the SUPERIMPOSE switch set to ON, the previously selected LINE A or LINE B indicator lights together with the RGB B indicator.
- Synchronize the line signal of the video equipment that is superimposing with the signal of RGB equipment.

[18] RGB B connector (D-sub 25-pin, male)
Connect to video equipment having either digital or analog RGB output.
To monitor the input signal fed through this connector, press the RGB B input select button.

[19] RGB A AUDIO input jack (phono type)
Connect to the audio outputs of the RGB equipment connected to the RGB A connector.

[20] RGB A SELECT connector (minijack)
When ground potential is applied to this connector, signal input from the RGB A connector will be monitored regardless of the setting of the input select buttons on the front panel. If a power supply of 5 V is applied to the connector or the circuit is open, the input signal selected with the input select buttons will be monitored.
This connector allows the input source monitored to be selected with external equipment.

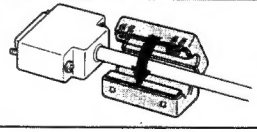
[21] CONTROL S input connector (minijack)
Connect to the CONTROL S output of video equipment. The power on/off, input select, volume and picture settings can be remotely controlled through the equipment connected.

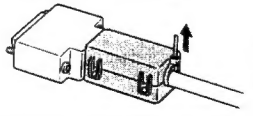
Note

Mutual interference of deflection may occur when several monitors are ranged side by side for a loop-through connection, as this unit is compatible with the signals of high horizontal frequencies. In such a situation, allow adequate space between each unit.

[22] Earphone jacks
Phone 1 :When the earphone is connected, the sound through the speaker is also audible.
Phone 2 (Switched) :When the earphone is connected, the sound through the speaker is not audible.
If a stereo headphone plug is inserted to Phone 1 or Phone 2, the monaural sound will be heard from both the left and right channels.

When the monitor is connected to the RGB equipment, attach the ferrite core (supplied) to both the ends of the shielded RGB cable (not supplied).





Note

If you do not attach the ferrite core on the shielded RGB cable, the monitor will not conform to mandatory FCC standards.

Specifications

Color systems PAL, SECAM, NTSC3.58 and NTSC4.43 systems

Picture tube Trinitron tube
Anti-glaring dark screen
Approx. 35.56 cm (13 inches) picture measured diagonally, 90-degree deflection
AG Pitch 0.25 mm

Resolution Video inputs: 600 TV lines
RGB inputs: 1024 dots × 768 lines

Color temperature
9300 K + 8MPCD

Frequency response
8 MHz (–6 dB, composite video)
30 MHz (–3 dB, RGB)

Linearity Horizontal: less than ±5%
Vertical: less than ±5%

Line full range Composite video input
Horizontal: 15.734 kHz ±500 Hz
Vertical: –8Hz
RGB input
Horizontal: 15 to 36 kHz
Vertical: 50 to 100 Hz

Overscan of the picture
Composite video input
less than +7%
RGB input
Horizontal: –7% to +5% variable
Vertical: –7% to +5% variable

Audio 0.5 W monaural

Inputs VIDEO IN (LINE A): BNC connector (1)
composite video, 1Vp-p ± 3dB, sync negative, automatic termination at 75 ohms
Y/C IN (LINE B): 4-pin, mini-DIN (1)
Y(luminance signal): 1Vp-p, sync negative, 75-ohm termination switchable
C (chrominance signal): 0.286 Vp-p (NTSC); 0.3 Vp-p (PAL) (burst signal), 75-ohm termination switchable
RGB A: D-sub 9-pin connector (1, female)
Analog RGB: 0.7Vp-p, 75 ohm terminated
Digital RGB : TTL level
RGB B: D-sub 25-pin connector (1, male)
Analog RGB: 0.7Vp-p, 75 ohm terminated
Digital RGB: TTL level
AUDIO IN (LINE A/LINE B/RGB A):
phono jack (3)
–5 dBs, high impedance
CONTROL S: minijack (1)
RGB A SELECT: minijack (1)

Outputs VIDEO OUT (LINE A): BNC connector (1)
Y/C OUT (LINE B): 4-pin mini-DIN (1)
AUDIO OUT (LINE A/LINE B): phono jack (2)

Power requirements
120 V AC, 50/60 Hz

Power consumption
95 W Max.

Operating temperature range
0°C – 35°C (32°F – 95°F)

Humidity 90% or less

Dimensions Approx. 379 × 365.1 × 411 mm (w/h/d)
(15 × 14 3/8 × 16 1/4 inches)

Weight Approx. 17 kg (37 lb 8 oz)

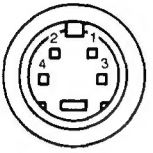
Accessories supplied
AC power cord (1)
Ferrite core (2)
Plastic binder (2)

Optional accessories
Display stand SU-552W
Remote control unit RM-787
Earphone ME-20

Design and specifications are subject to change without notice.

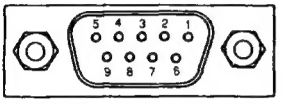
Pin assignment

Y/C (Y/C separate) IN connector (4-pin)



Pin No.	Signal	Description
1	Y-input	1 Vp-p, sync negative, 75 ohms
2	CHROMA sub-carrier-input	0.286 Vp-p (NTSC); 0.3 Vp-p (PAL), burst signal Delay time between Y and C: within 0±100 nsec., 75 ohms
3	GND for Y-input	Ground
4	GND for CHROMA-input	Ground

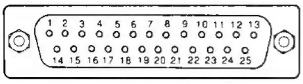
RGB multi connector (9-pin, female)



Pin No.	Signal				
	Analog	Digital 8-color	Digital 16-color	Digital 64-color	Digital monochrome
1	GND	GND	GND	GND	GND
2	(NC)	(NC)	(NC)	r	(NC)
3	R	R	R	R	(NC)
4	G	G	G	G	(NC)
5	B	B	B	B	(NC)
6	(NC)	(NC)	I	g	I
7	(NC)	(NC)	(NC)	b	G
8	H/HV	H/HV	H/HV	H/HV	H/HV
9	V	V	V	V	V
Sync level	TTL level (Positive or Negative)	TTL level (Positive or Negative)	TTL level (H:Positive V:Positive)	TTL level (H:Positive V:Negative)	TTL level (H:Positive V:Negative)

GND: Ground R: Red G: Green B: Blue
(NC): No connection
H: Horizontal sync V: Vertical sync
HV: Composite sync I: Intensity
r: Secondary red g: Secondary green b: Secondary blue

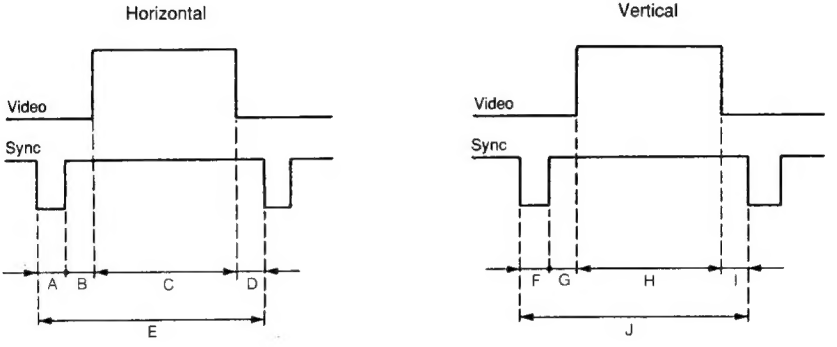
RGB multi connector (25-pin, male)



Pin No.	Signal	Signal level
1	IBM select	H (5 V): IBM mode L: 3 Bit TTL
2	Audio select	H (5 V or open): Audio inputs from #13 L (less than 0.4 V): Audio inputs from the LINE AUDIO IN jacks
3	Video input (composite video signal) H. sync or composite sync	When the high state is selected at #9: 1 Vp-p, 75 ohm terminated (Negative polarity sync),with the SUPERIMPOSE switch set to ON 1.2–4 Vp-p, 75 ohm terminated (Negative or Positive), with the SUPERIMPOSE switch set to OFF When the low state is selected at #9: TTL level
4	Blue input	Positive polarity When the high state is selected at #9: Analog signal (0.7 Vp-p, 75 ohm terminated, non sync 1 Vp-p, 75 ohm terminated, with sync on G signal) When the low state is selected at #9: Digital signal (TTL level)
5	Green input	
6	Red input	
7	NC	
8	NC	
9	Analog/digital mode select	H (open): Analog signal (0.7 Vp-p) L (ground): Digital signal (TTL level)
10	RGB B/NORMAL mode select (Function switch)	H (3 V to 12 V): Signal input from the 25 pin D-sub L (less than 2 V): Composite video inputs from LINE or Y/C input impedance more than 22 kilo ohms
11	V. sync	TTL level
12	Blanking input	When the high state is selected at #9: H (1 V to 3 V): RGB input from the 25 pin D-sub L (less than 0.4 V): Composite or Y/C video inputs, 75 ohm terminated (Rapid switch) When the low state is selected at #9: H (5 V or open): RGB input from the 25 pin D-sub L (ground): Composite video input from LINE VIDEO IN
13	Audio input	Input level –5 dBs (normal), input impedance more than 47 kilo ohms
14	EXT/INT video select	Functions with the SUPERIMPOSE switch set to ON. H (open): Sync signal input from #3 L (ground): Sync signal input from LINE or Y/ C
15	Video input return	
16	Blue input return	
17	Green input return	
18	Red input return	
19	Ground	
20	Video output (composite sync output)	Output level 1.0 Vp-p, within sync 0.3 Vp-p output impedance 75 ohm

Pin No.	Signal	Signal level
21	Video output return	
22	Audio common return	
23	Audio output	Output level –5 dBs (normal) output impedance less than 10 kilo ohm
24	Blanking input return	
25	IBM luminance signal	Positive polarity When the high state is selected at #1: TTL level When the low state is selected at #1: Low state (GND)

Timing Chart



	CGA compatible	EGA compatible	VGA compatible			1024×768 Interlace
fH	15.68 kHz	21.86 kHz	31.47 kHz			35.52 kHz
A (µs)	4.45	4.92	3.81			3.92
B (µs)	8.03	1.65	1.91			1.25
C (µs)	44.83	39.32	25.42			22.81
D (µs)	6.47	–0.14	0.64			0.18
E (µs)	63.78	45.75	31.78			28.15
fV	60 Hz	60 Hz	60 Hz	70 Hz	70 Hz	87 Hz
F (ms)	0.19	0.60	0.064	0.064	0.064	0.113
G (ms)	2.11	0.10	1.02	1.08	1.87	0.563/0.577
H (ms)	12.74	16.01	15.26	12.71	11.13	10.81
I (ms)	1.64	0.04	0.349	0.416	1.206	0/0.014
J (ms)	16.68	16.75	16.69	14.27	14.27	11.50
Sync Polarity H	+	+	–	–	+	+
Sync Polarity V	+	–	–	+	–	+